IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method of depositing a pattern of nanostructure-containing material onto a substrate, the method comprising:

(i) forming a suspension [[of]] containing pre-formed ~~nanostructure-containing material in a~~ carbon nanotubes and adhesion promoting materials in an alcohol-based liquid medium, wherein the adhesion promoting materials are selected from the group consisting of glass frits, binders, metal particles and combinations thereof;

(ii) ~~masking at least a portion of at least one surface of the substrate by~~ depositing a release layer on the surface of the substrate, depositing a layer of epoxy-based photoresist on the release layer, masking the photoresist with a mask having openings which expose the underlying photoresist to UV light and forming a pattern of openings ~~therein~~ in the photoresist by UV photolithography;

(iii) immersing electrodes in the suspension, wherein at least one of the electrodes comprises the substrate or is electrically connected to the substrate; [[and]]

(iv) applying a direct or alternating current to the immersed electrodes thereby creating an electrical field between the electrodes; whereby the ~~nanostructure-containing material is~~ carbon nanotubes are caused to migrate toward, and attach to, areas of the substrate exposed by the [[mask]] patterned photoresist; and

(v) activating the deposited carbon nanotubes, wherein the activation is selected from the group consisting of sonication, rubbing, tapping, brushing, blowing, plasma treatment, application of an electrical field in a vacuum, application of an electrical field under a partial oxygen pressure, and combinations thereof.

2. (Original) The method of claim 1, further comprising adding a chemical to the suspension that promotes migration of the nanostructure-containing material to the substrate.

3-6. (Canceled)

7. (Currently amended) The method of claim 1, wherein the ~~nanostructure-containing material comprises~~ carbon nanotubes comprise at least one of single-walled and multi-walled carbon nanotubes.

8-10. (Canceled)

11. (Previously presented) The method of claim 1, wherein the method further comprises annealing the pre-formed nanotubes at 100°C-1200°C in a vacuum prior to their introduction into the suspension.

12. (Canceled)

13. (Original) The method of claim 1, wherein the liquid medium comprises at least one of water, ethyl alcohol, and isopropyl alcohol.

14. (Canceled)

15. (Previously presented) The method of claim 2, wherein the chemical comprises at least one of $MgCl_2$, $Mg(NO_3)_2$, $La(NO_3)_3$, $Y(NO_3)_3$, $AlCl_3$, and sodium hydroxide.

16. (Canceled)

17. (Original) The method of claim 1, wherein the substrate comprises an electrically conductive material or a semiconductor material.

18. (Currently amended) The method of claim 1 wherein the ~~liquid medium comprises alcohol and the nanostructure-containing material~~ carbon nanotubes comprise single-

walled carbon nanotubes, and step (i) further comprises forming a suspension having a concentration of 0.01 mg/liter to 1 g/liter.

19. (Original) The method of claim 1, wherein step (iv) comprises applying direct current to the electrodes.

20. (Original) The method of claim 19, wherein the electrical field applied between the two electrodes is in the range of 0.1-1000V/cm and the direct current is in the range of 0.1-200 mA/cm^2.

21-22. (Canceled)

23. (Original) The method of claim 1, further comprising the steps of:

(v) removing the electrodes from the suspension; and

(vi) annealing the coated substrate.

24. (Original) The method of claim 23, wherein step (vi) comprises a two-step anneal, comprising heating the coated substrate to a first temperature for a selected period of time, then heating the coated electrode to a second temperature for a selected period of time.

25-26. (Canceled)

27. (Currently amended) The method of claim [[25]] 1, wherein the binder is at least one of poly(vinyl butyral-co vinyl alcohol-co-vinyl acetate) and poly(vinylidene fluoride).

28. (Currently amended) The method of claim [[25]] 1, wherein the ~~additional~~

~~materials~~ metal particles comprise small particles of at least one of: iron; titanium; lead; tin; or cobalt; and wherein the particles have a diameter less than 1 micrometer.

29. (Currently amended) The method of claim 1, further comprising pre-coating at least one adhesion promoting layer onto the substrate prior to coating with the ~~nanostructure-containing materials~~ carbon nanotubes.

30. (Original) The method of claim 29, wherein the adhesion-promoting layer comprises at least one of: iron; titanium; cobalt; nickel; tantalum; tungsten; niobium; zirconium; vanadium; chromium; and hafnium.

31-32. (Canceled)

33. (Previously Presented) The method of claim 1, wherein the thickness of the photoresist layer is in the range of 1-100 microns.

34. (Previously Presented) The method of claim 1, further comprising the step of removing the photoresist layer after deposition of the nanostructure-containing material.

35. (Original) The method of claim 34, wherein the photoresist layer is removed by a methods chosen from: dissolving in a solvent, sonication, and preferential decomposition.

36. (Previously presented) The method of claim 1, wherein the photoresist layer is insoluble in liquid.

37. (Previously presented) The method of claim 1, wherein the photoresist layer is insoluble in alcohol.

38. (Currently Amended) The method of claim [[12]] 1, wherein the photoresist layer comprises negative-type epoxy based material.

39. (Original) The method of claim 23 further comprising the steps of: annealing the coated substrate comprising the photoresist layer at 100°C-400°C; quenching the coated substrate comprising the photoresist layer to room temperature; and removing the photoresist layer.

40. (Currently Amended) A method of fabricating a patterned electron field emission cathode comprising a substrate coated with pre-formed carbon nanotube-containing material, the method comprising:

(i) preparing [[a]] an alcohol-based stable liquid suspension or solution containing the pre-formed carbon nanotube materials and adhesion promoting materials, wherein the adhesion promoting materials are selected from the group consisting of glass frits, binders, metal particles and combinations thereof;

(ii) depositing a layer of insoluble epoxy-based photoresist on the surface of the substrate;

(iii) masking the photoresist with a mask having openings which expose the underlying photoresist to UV light and patterning the photoresist by UV photolithography techniques such that openings are formed in the photoresist layer corresponding to areas on the substrate onto which carbon nanotube-containing material is to be deposited;

(iv) inserting two electrodes into the liquid where the substrate is, or is electrically connected to, one of the two electrodes, and applying an electrical field between the two electrodes such that the carbon nanotube-containing material is deposited on the surface of the substrate corresponding to the openings in the photoresist layer; [[and]]

(v) removing the photoresist layer from the substrate; and

(vi) activating the deposited carbon nanotube-containing material, wherein the activation is selected from the group consisting of sonication, rubbing, tapping, brushing, blowing, plasma treatment, application of an electrical field in a vacuum, application of an electrical field under a partial oxygen pressure, or combinations thereof.

41. (Original) The method of claim 40, wherein the substrate comprises a plurality or a pattern of conductive contacts disposed on the surface of an insulating or semiconductor material.

42. (Canceled)

43. (Currently amended) The method of claim [[42]] 40, wherein the activation process comprises removal of excess carbon nanotubes that are not bonded to the substrates and removal of non-uniform carbon nanotube protrusions.

44. (Currently amended) The method of claim 40, wherein step (iv) is repeated a plurality of times to deposit multiple layers of material.

45. (Canceled)

46. (Currently Amended) A method of fabricating a patterned electron field emission cathode comprising a substrate coated with pre-formed carbon nanotube-containing material, the method comprising:

(i) preparing [[a]] an alcohol-based liquid suspension or solution containing the pre-formed carbon nanotube materials and adhesion promoting materials, wherein the adhesion promoting materials are selected from the group consisting of glass frits, binders, metal particles and combinations thereof;

(ii) depositing a release layer on the surface of the substrate;

(iii) depositing a layer of epoxy-based photoresist that is insoluble in the liquid onto the surface of the release layer;

(iv) masking the photoresist with a mask having openings which expose the underlying photoresist to UV light and patterning the photoresist by UV photolithography techniques such that openings are formed in the photoresist layer corresponding to areas on the substrate onto which carbon nanotube-containing material is to be deposited;

(v) removing the release layer exposed by the openings in the photoresist to expose substrate surfaces;

(vi) depositing the carbon nanotube containing materials onto the surfaces of the exposed substrate surfaces; [[and]]

(vii) removing the photoresist layer and the release layer from the substrate while keeping the carbon nanotube-containing materials on the substrate surface; and

(viii) activating the deposited carbon nanotube-containing material, wherein the activation is selected from the group consisting of sonication, rubbing, tapping, brushing, blowing, plasma treatment, application of an electrical field in a vacuum, application of an electrical field under a partial oxygen pressure, or combinations thereof.

47. (Original) The method of claim 46, wherein the method of depositing carbon nanotube-containing materials in step (vi) comprises electrophoresis, spin coating, casting, printing, or spraying.

48. (Original) The method of claim 46, wherein the method of depositing carbon nanotube-containing materials in step (vi) comprises DC electrophoretic deposition, wherein the electrophoretic deposition comprises: inserting two electrodes into the liquid where the substrate is, or is electrically connected to, one of the two electrodes, and applying an electrical field between the two electrodes such that the carbon

nanotube-containing material is deposited on the surface of the substrate corresponding to the openings in the photoresist layer.

49. (Original) The method of claim 46, wherein the carbon nanotube-containing materials comprise at least one of the following: single-wall carbon nanotubes, double-wall carbon nanotubes, multi-wall carbon nanotubes.

50. (Original) The method of claim 46, wherein the carbon nanotubes are hydrophilic.

51. (Original) The method of claim 46, wherein the substrate is indium-tin-oxide coated glass, conducting paste coated glass, metal coated glass, metal, polymer, or Si wafer, and wherein the areas to be deposited with the carbon nanotube-containing materials are conductive.

52. (Original) The method of claim 46, wherein step (vii) comprises removing the photoresist by release layer lift-off.

53. (Original) The method of claim 46, wherein the photoresist comprises a negative epoxy based photoresist, wherein the release layer is a chemical that can be removed by certain solvents, and wherein the release layer lift-off is performed by dissolving the release layer with the solvent.

54. (Previously presented) The method of claim 46, further comprising at least one of the following: rinsing the substrate in solvents and baking and annealing the substrate.

55. (Canceled)

56. (Currently amended) The method of claim [[55]] 46, wherein the activation

process comprises removal of excess carbon nanotubes that are not bonded to the substrates and removal of non-uniform carbon nanotube protrusions.

57. (Canceled)

58. (Original) The method of claim 46, wherein step (vi) is repeated a plurality of times to deposit multiple layers of material.

59-65. (Canceled)